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THE JOURNAL OF PHILOSOPHY

ESTHETICS AND EPISTEMOLOGY[1]

CROCE'S *Æsthetic* begins with the following sentence, "Knowledge has two forms: it is either intuitive knowledge or logical knowledge." The development of the theory of intuition is esthetics. Hence, if intuition is one kind of knowledge, a close connection is established between esthetics and epistemology. The present paper agrees that, if the term "intuition" be correctly understood, the esthetic experience is based on intuition; but intuition should not be called knowledge. Instead, it is the stuff out of which knowledge is made. Here again, however, a close connection between esthetics and epistemology is established, for intuition is the basis both of the experience of esthetic value and of the knowledge process.

I

Intuition may be defined as immediate and direct awareness: that which is immediately presented to consciousness is intuited. If intuition be regarded as a kind of knowledge, the difference between it and rational (or logical) knowledge is that intuition is immediate while rational knowledge is mediated. The mediating factors in rational knowledge are concepts. Intuitions are given to the mind without the intervention of concepts. Logical knowledge is propositional in form, and propositions always involve concepts. If intuition is not conceptual, then intuition can not be propositional in form, and this is another contrast between it and logical knowledge.

Three different types of experience may enter a claim to be identified as cases of intuition; first, the feeling of certainty about the truth of some conclusion we reach without seeming to go through a process of reasoning to get it; second, the mystic vision; and third, perceptual intuition. The first type is what is usually called intuition in everyday speech, but its claim must be dismissed, for in so far as it is of any value, it can better be called insight. Such so-called intuition is propositional in form, and hence, is either true

[1] Read, in part, at the Southern Society for Philosophy and Psychology, April 15, 1938, Knoxville, Tennessee.

or false.[2] On the other hand, if intuition is not propositional, it can not significantly be called either true or false. It just takes place or does not take place. Insight, however, is really based upon the reasoning activity, and may be called true or false. When one displays insight, the reasoning processes are vague. One reaches a conclusion without knowing exactly how he has reached it. Hence, he says that he "feels" the truth of the conclusion. If the conclusion is reached as a result of thorough acquaintance with the subject or profound thought about it, it may be of great value and possess truth.[3] The immediacy, however, is specious. It is the kind of immediacy which means "all of a sudden."

The claims of the mystic vision to be considered a kind of intuition are much better. If there is any such thing as a genuine mystic vision, it *is* intuition, for it is an experience of immediacy. It either happens or does not. No one who has not experienced the mystic vision is competent to treat of it, however, for by definition it is ineffable and indescribable. We can dismiss the consideration of the mystic vision from the present discussion, not only because the present writer is not competent to treat of it, but also because very few others are competent, and it is quite impossible to do anything philosophically with it. It is neither a kind of knowledge nor is it the stuff out of which knowledge is made. It might be held that philosophy should lead to the mystic vision, but in this case the goal of philosophy is to lose itself. The present writer holds that it is not the task of philosophy to take us into the heart of reality in the sense of making us directly and intimately acquainted with it. It is the task of philosophy to understand, and understanding is a peculiarly intellectual process. It is concerned with the interconnection and interrelation of concepts. The *having* of an intuition is not a philosophical activity at all, whether this intuition is mystical or not.

The one kind of intuition which we can all identify in our own experience is perceptual intuition. This is what is immediately present to the mind in the activity of the senses. There are times when, to all of us who are not blind or deaf, the awareness of the color blue or the tone of a bell is immediately present in the mind. Perceptual intuition is not identical with sensation, however, for the term "sensation" has, within modern psychology, a very special meaning. Sensation, as such, is rather abstractly conceived to be the content of perception. The world of pure sensation, if that means anything at all, would be the "buzzing blooming confusion" of James's picturesque expression. Sensation is amorphous while

[2] See W. E. Hocking, *Types of Philosophy*, Ch. XX.

[3] See S. K. Langer, *The Practice of Philosophy*, Henry Holt, 1930, Ch. VII.

perception is of form, and that of which the adult mind is aware always has form of some sort, be it ever so slight.

On the other hand, intuition should not be identified with perception, at least, not until perceptual intuition has been distinguished from perception of fact. Let me illustrate the difference between the two. If I say "I hear a street car," I am not being absolutely literal, for a street car is not adequately defined as a sort of a noise, but that is what I hear. Neither am I strictly literal if I say "I see a street car," for a street car can not be defined as a colored shape, but that is what I see. The street car is more than a noise and a colored shape. It is the way the noise and the colored shape and a whole lot of other things go together. These other things include what I can do with the object of intuition and what it can do to me. The noises, colored shapes, etc., are immediately present to the mind. They are intuitions. The street car, on the other hand, is a perception of fact. It is the intuitions plus what they mean to me, and meanings are concepts.

Not only is this noise and colored shape a street car, but other noises and colored shapes can be street cars too. "Street car" is a universal, and universals are present in perceptions of fact, but they are not intuitions. Only the noises and colored shapes, and the way they go together in perception, are intuitions. Perceptual intuition is whatever is immediately present to the mind; it may be either in the activity of the senses or in sense imagery. When pleasure is taken in the data of perceptual intuition for their own sakes, positive esthetic value is being experienced. The esthetic object is given in intuition, and whatever is given in intuition is an esthetic object. This is not to say, however, that all such objects are beautiful, for beauty is probably best understood as a relatively high degree of positive esthetic value. Any esthetic object may or may not be beautiful, but certainly nothing else than an esthetic object can be beautiful. To say the same thing in more precise words: any particular object given in intuition may or may not have a high degree of esthetic value, but nothing else does.[4]

To go back to the street car: I shall continue to say, upon occasion, I hear or see a street car, even though I have just adversely criticized the literal accuracy of that expression. I shall continue to say it because the criticism is cogent only when hearing and seeing are to be taken as modes of perceptual intuition. On the other hand, when I say I hear a street car, I am usually expressing a perception of fact. The street car in the perception of fact is a concept, as has been brought out. It is also a universal. All per-

[4] See the author's attempt to construct an esthetic theory on this basis in *Perception and Æsthetic Value*, Prentice-Hall, 1938.

ceptions of fact contain concepts, and it is concepts which give universality. Perceptual intuition gives absolute particularity, or, as Croce says, "individual physiognomy." Croce denies the existence of any intellectual intuition.

I do not know that Croce would agree with the restriction of intuition to perceptual intuition. Everything he says about intuition, except his identification of intuition with expression, however, fits within the concept of perceptual intuition. I reject the identification of intuition with expression,[5] hence I get a very different kind of a theory of esthetics from his, but at least they both agree in this, that neither one is an intellectualistic theory. And the reason for this in each case is the same: intuition itself is not intellectual. Concepts may in some way influence the apprehension of the data of perceptual intuition, and it is the business of esthetics to determine if they do, and in what manner; but the activity of intuition is not intellectual. Perceptual intuitions are absolutely particular. Concepts are to a greater or less degree universal, and the intellect deals with universals.

This is the basis for my disagreement with the quotation from Croce with which I opened this paper, and for my saying intuition is not a kind of knowledge, but is the stuff out of which knowledge is made. Knowledge always involves concepts. Knowledge is propositional in form, and a proposition always involves universals. Then if intuition is what gives absolute particularity, it is not a kind of knowledge. To call it such is to make the term "knowledge" coëxtensive with all kinds of awareness, and hence to rob it of any special significance. The term "knowledge" is significant to the extent to which it is contrasted with intuition.

The apogee of knowledge is understanding. Understanding is based on the grasp of conceptual or logical relations. The grasp of such relations is not a condition of immediate awareness. Intuition, defined as immediate awareness, is contrasted with intellect, defined as mediated by concepts; hence, it precludes the grasp of logical relations, for these are conceptual. Thus, intuition is not understanding, and understanding is not involved in it. To call intuition a kind of knowledge is merely to use terms loosely and vaguely.

II

I said that intuition is the stuff out of which knowledge is made. But if it contains no conceptual element, and if nothing without a conceptual element should strictly be called knowledge, the question becomes pressing, whence does the conceptual element in knowledge

[5] See Appendix C in *Perception and Æsthetic Value.*

come? This has been historically one of the central problems of epistemology, though its solutions have usually been metaphysical.

I have said that the conceptual element is not intuited, because intuition gives only particularity, whereas the conceptual element is universality. And yet, to many profound thinkers, it has seemed apparent that all elements in knowledge must in the last analysis be based upon some kind of immediate awareness. Socrates discovered explicitly the conceptual element in knowledge. Plato held that the knowledge of the universal had to be based on some sort of intuition, but because he could see no source for the intuition in the empirical world, he placed its time before birth and evolved the elaborate mythology of the doctrine of recollection. This doctrine contains a profound insight into the nature of knowledge, and the relation between the perceptual and conceptual elements of knowledge.

Aristotle saw that many of the details of Plato's mythology were unnecessary. If you put the universal element actually in the objects of ordinary experience, the mind can reach it by means of abstraction. The mind picks it out of its concrete context, and this abstracted universal is intuited by the active reason. Aristotle insists, however, that the universal must be really present. Abstraction here seems to be vaguely conceived as a mediating factor in a sort of indirect intuition. An indirect or not immediate intuition would be a contradiction in terms, and, of course, Aristotle did not use this language; but, nevertheless, I think that it is fair to say that Aristotle conceived the grasp of the conceptual element in knowledge along the model of a sort of non-intuitional intuition. He criticized Plato for hypostatizing the Ideas, but his solution of the problem involves an hypostatization of the active reason.

The exaggerated realism of the first period of medieval philosophy was quite inadequate, for it was based on the Platonic position with the doctrine of recollection left out. The later, modified realism of Aquinas was much more adequate, however, for it was based on a thorough understanding of the Aristotelian position. As far as human knowledge is concerned, the conceptual element is to be accounted for by abstracting the substantial universal from the particular object given in perception.

William of Occam pointed out that it was not necessary, in order to carry on this process of abstraction, to assume that a universal element is actually present in the perceptual object. If objects are in some respect similar, that is enough to account for the nature of the conceptual element in knowledge. It is not necessary to assume that they have anything literally in common. This is the context of that dictum for which Occam is famous, the so-called

"razor." Thomas Aquinas was quite familiar with this principle, and stated it, but he did not apply it to the real existence of universals *in rebus* because he did not see how the mind could perform the process of abstraction unless there was something really there to abstract. Occam pointed out that the process of abstraction performs its function if it enables the mind to make predications, and that the only reality it is necessary to assume for the universals is that they are predications in the human mind. Universals, therefore, are only words *plus* their meanings.

Kant had a very different way of accounting for the conceptual element in knowledge. It is *a priori*. This is not a doctrine of recollection. The source of the *a priori* is to be found, not in any previous intuition, but in the structure of the mind. Knowledge is analyzed into matter and form. The material element is furnished in perceptual intuition (*Anschauung*), but the formal element, which is the conceptual element, is not furnished by any sort of intuition. It is due to the nature of the mind furnishing ready-made forms that are assimilated to the material of intuition to yield orderly experience. These formal or *a priori* principles are space, time, and the categories of the understanding. There is little metaphysics in this theory, but it is a matter of history how quickly a metaphysics grew out of it.

III

The present paper contends that the conceptual element in knowledge is not given in any sort of intuition, but neither is it given in the structure of the mind. It is not given at all. It is derived—derived by a constructive activity of the mind working with what is given in intuition. The product of this activity (i.e., the conceptual element in knowledge) is no more dependent upon the structure of the mind than it is upon the nature of what is given in intuition. This position is not Kantian, because to Kant the categories are not in any sense derived from intuition; they are furnished ready-made by the mind.

The conceptual element in knowledge is derived from the intuitive element by that activity of the mind known as generalization. Concepts are generalizations. Generalizations are made from intuitions. There is nothing in the nature of concepts which can not be accounted for by the way the mind deals with intuitions. Therefore, the only reality which universals have is that they are constructions by means of which the mind deals with many particulars at the same time.

If intuition gives absolute particularity, then every piece of the data of intuition is different from every other piece. But the mind

sometimes overlooks the difference and does not discriminate between particulars. This process is aided when the mind abstracts. *This* experienced object is not to be discriminated from *that* experienced object according to one of its aspects thought of more or less in isolation. Whereupon we say that both objects have the *same* color, and we have the concept "red." All the word "same" means here is that in respect to this particular quality the two objects are not to be discriminated from each other. Of course, they *are actually intuited* as different. Color as such, even any particular color as such, is never an intuition. Color is always given as a colored shape. Much as it may be impossible to distinguish between the red of one shape and the red of another, yet the actual intuitions are different and can be distinguished.

Thus, a simple generalization such as "red" is due to the mind's dealing with a number of objects of intuition without discriminating between them according to some aspect. The concepts "yellow," "green," "blue," etc., are derived in a similar way. The concept "color" is a higher degree of generalization. It is due to the lack of discrimination between objects according to whether they are red or yellow or green or blue. It is a generalization made up from the lesser generalizations, red, yellow, green, blue, etc.

Thus, all concepts are variables in the sense of the mathematical variable. A true mathematical variable is a generalization of a very high degree—a generalization from which all empirical qualities are abstracted. Every generalization is a variable, however, even though it be of very low degree.

Even the highest degree of logical generalization, the concept of order itself, is to be traced back originally to sources given in perceptual intuition. I said a short while ago that understanding is based on logical relations. All relations, however, are not logical. There are perceptual relations: that is, relations which are given in intuition. All form is defined in terms of relations. Perception is to be distinguished from sensation by the fact that perception is always of form. Therefore, there are strictly perceptual relations. When an object of intuition is complex, it is made up of parts. The parts are put together in some definite way; that is, they have definite relations to each other. The way that the parts of a perceptual object are put together is the esthetic form of the object. Perhaps the simplest example of such form is shape. Shape is the arrangement of the parts of an object according to what we call spatial relations. Shape is intuited, therefore spatial relations are intuitional.

Logical relations, and thus logical form, are generalizations of esthetic relations. The logical relationship of membership in a

class is an obvious generalization of the case where some particular individual is a member of some particular class. The relationship becomes logical to the extent that we do not distinguish what individual or what class. The logical relationship of subsumption is a generalization of the case where one class is contained within another class. The relationship "contained within" is, in the last analysis, a spatial relationship—that is, intuitional. We can speak of classes being contained within each other only to the extent that we abstract from the peculiarly spatial conditions of the original intuition, and generalize by failing to discriminate what particular classes may be involved.

The concept of order in general is based on the fact that the data of intuition sometimes seem to display an order intrinsic to their own nature. A study of the materials of beauty shows that many of these materials have a perfectly definite arrangement dependent only upon their own perceptual nature. It is this fact that makes possible the great elaboration of esthetic form which we find in the fine arts such as music and painting. To take the example of music, the esthetic form of any piece of music is dependent upon the fact that every tone is higher than or lower than any other tone. The relation between one tone and all others is given in such a way that of any three tones, one falls between the other two.[6]

The point I wish to make here is that in the same way that concepts are generalizations of the objects of perceptual intuition, conceptual relations are generalizations of the relations given in perceptual intuition. Logical form is made out of conceptual relations and esthetic form is made out of perceptual relations. Since conceptual relations are generalizations of perceptual relations, logical form may be said to be a generalization of esthetic form. In all of this, there is no need to assume the reality of anything except the materials of intuition and the activity of the mind in generalizing. There is no real or substantial universal, nor anything literally common to any two intuitions. Neither are there any ready-made forms in the mind. The only assumption necessary is that the mind fails to discriminate between different objects in certain respects and for certain purposes. And I would call this less an assumption than a simple observation.

Not only is the assumption of a literal sameness between two intuitions gratuitous, but it may turn out to be false. If you show

[6] D. W. Prall, in his book *Æsthetic Judgment* (Crowell, 1929), makes a clear case for this, which he calls the intrinsic order of esthetic materials. He has presented it in further elaboration in his later book *Æsthetic Analysis* (Crowell, 1936).

me two samples of red, I may not be able to distinguish between them in respect to their color, but someone with a better eye may. That there actually is a discernible difference where I have assumed a common quality does not invalidate my concept of red, for the existence of a literally common quality has nothing to do either with the formation of that concept or with its validity.

IV

Thus, through generalization, a conceptual scheme is set up by means of which we reduce our experience to order. Many persons have supposed it necessary to assume the reality of the universal because the generalizations possible seem to be controlled by something in the nature of the object. The answer to this is twofold. First, there *is* something in the object which exercises a control (although not a rigid one) over the formation of generalizations, but it is *not* a universal, or a literally common element. It is the fact of the intuited degrees of difference. All intuitions, as they are absolutely particular, are different from each other. But the differences admit of degrees. The concept by which we denote the lesser degrees of difference is similarity. This is the only meaning for similarity which either epistemology or esthetics ever actually uses. Scarlet is more like crimson than is green. This means that in the intrinsic order of hues, the intuited degree of difference between scarlet and crimson is less than that between green and crimson. This intuited similarity and difference is at the basis of all intrinsic orders of esthetic materials.

The second answer to the objection that there seems to be something in the nature of the object which controls the generalizations it is possible to make is this: the mind makes many generalizations that seem to be based on the nature of the object, but nevertheless discards them. Many more generalizations are made than are kept, or made use of. Only those generalizations which enable us to get hold of our experience—which reduce our experience to order and thus enable us to understand it, are adopted into our categorial scheme. Generalizations, even though they are indicated by the nature of the intuited objects, are discarded if they do not serve the purposes of action or of understanding—if they do not fit within a larger categorial scheme.

The establishment of a categorial scheme is not an individual or private affair. Through language, it is handed down from generation to generation, and the conceptual element in knowledge is, in empirical fact, largely a matter of social inheritance. This fact lends a specious universality to our conceptual schemes, and

reinforces, in the minds of many persons, the view that the conceptual element in knowledge displays real universals.

The reality of the universal lies very near where Occam said it does. The study of the nature of intuited data, plus an understanding of the way generalizations are made from that data, fully explains the conceptual element in knowledge, and shows that Occam's razor is as effective today as it ever was in cutting down the reality of universals. To assume either a Platonic or an Aristotelian reality of universals, or to assume that universals are *a priori* forms of the mind, may serve to explain the conceptual element in knowledge, but either assumption is gratuitous nevertheless.

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THE TRANSPOSABILITY OF FACTS AND VALUES

THE close relation of fact and value has been recognized in a general way since Plato's conception of highest reality in terms of the good, with truth and beauty inseparable therefrom. Despite a sharp demarcation between fact and value resulting from the exclusion of values from the domain of modern science and a clear cleavage established between judgments of fact and judgments of value since Kant, Lotze, and Ritschel, the closeness of the relationship has been increasingly emphasized in more recent value theory. It is voiced in the axiological dictum that "there can be no existence without value and no value without existence,"[1] in the idealists' contention that we have no conception of existence as value-free because we have no value-free conceptions,[2] and in the pragmatic conclusion that "facts are but values in disguise."[3] Indeed the closeness of the relation has become so apparently pervasive that some students of value theory have held that facts can be reduced to values and values to facts, some[4] finding the former reduction more fruitful, others[5] the latter.

[1] W. M. Urban, "Value, Logic, and Reality," *Proceedings of the Sixth International Congress of Philosophy*, 1926, p. 295.

[2] Cf., for instance, D. H. Parker, "Value and Existence," *Ethics*, Vol. XLVII (1938), pp. 475–486; and W. M. Urban, *The Intelligible World*, 1929.

[3] Cf. J. Dewey, *Essays in Experimental Logic*, 1916, pp. 355–389, and H. W. Schneider, "The Theory of Values," this JOURNAL, Vol. XIV (1917), pp. 141–154.

[4] E. g., W. M. Urban, *op. cit.*, pp. 165–167, *et passim*.

[5] E. g., W. N. Sheldon, *The Strife of Systems and Productive Duality*, 1918, Ch. VI.

But to still others a complete reduction or transposability of values into facts appears incredible or highly improbable. It is questioned not only as a result of established habits of thinking about facts and values, but also upon the much more important ground that a careful analysis of semiosis or sign-using phenomena discloses basic differences between factual and valuative statements in their component elements of reference and function. It is held that a value statement, for instance, "Water is good to drink," has not only an empirical reference to water as such and such a substance, but also an element of reference to the needs, interests, or preferences of sentient organisms, and that when the empirical or factual reference is subtracted there is still a residuum of distinctly affective or valuative, and possibly pragmatic, reference.[6]

The problem raised by this conflict of current viewpoints is such an extremely complex and difficult one as to preclude any pretense at completeness or finality. But for reasons summarily stated in what follows, consideration of the various intertangled issues involved leads the present writer to conclude that facts and values are mutually and completely transposable or translatable, and that this transposability has certain significant and indeed fundamental consequences for general value theory, that is, for the attempt to unify or clarify the relations of our various scientific and non-scientific interests.

Although further development of the science of semiosis may yield more light on the question of translatability, a more inclusive if "cruder" analysis seems to make it clear that the intent of many factual statements *is* to express what exists without reference to interest, desire, or other personal or organic factors and that many valuative statements *do* express the relations of desires or interests to the conditions and effects of their satisfaction. But it also appears (1) that to analyze single sentences out of relation to their total adjustment contexts is to lose sight of the fact that these sentences are but elliptical expressions of conclusions and

[6] For a brief but careful formulation of basic concepts and principles of the science of semiosis, see C. W. Morris, "Foundations of the Theory of Signs," *International Encyclopedia of Unified Science*, Vol. I, No. 2, 1938. Although his position may easily have been misunderstood, recent conversations (April, 1938) with Morris seem to indicate that he questions the transposability of values into facts on the grounds just mentioned. Page 58 of the work cited seems also to maintain this view, but the fact there emphasized —that, although languages rise and function for different purposes, in no case is any dimension (apparently the empirical, the affective, and the pragmatic) of semiosis absent—may indicate the possibility of transposition rather than the opposite.

expectations which have risen through and which always imply a larger interactive process and (2) that to restrict the factual to non-organic referents [7] is to overlook the existential character of organic events. These facts as well as the probable completeness of translatability are clear upon examination of concrete instances.

If the simple statements "Water is H_2O" and "Water is good to drink" are taken as illustrations, it can be shown, not of course that they are translatable or transposable into each other, but that each may be transposed into the opposite form of statement. The statement of fact, "Water is H_2O," can be transposed into forms which, in varying degrees of clarity, are seen to be valuative, for instance: "For the scientific purpose of exact denotation of chemical constituency, it is correct to say that water is H_2O," or "For this purpose, H_2O is a good or the best formulation of what water is." These valuative statements do not go beyond the meanings implied or assumed in the expression "Water is H_2O"; they merely make more explicit the fact that this statement arises within the interactions of a subject with an object and that it is sustained by further interactions commonly called inquiry and testing. The intent of any "purely" factual statement such as "Water is H_2O," "Water is wet," or "Water is liquid" is to indicate the actual nature of an event or relation, but it is seen, when viewed more critically and in relation to the larger situation in which it rises and functions, to be only a shorthand expression of a system of interdependencies between a knowing subject and an object *thereby* known. Indeed even the so-called simple properties of objects or events, such as wet, heavy, liquid, or extended, are the efficacies or efficiencies of these events in generating and maintaining relations with and as other events, including those of knowers and their knowing.

Similarly, the value statement "Water is good to drink" is transposable without addition or remainder of essential meanings into such factual forms as: "Under certain circumstances organisms like to drink water," "When water is assimilated under certain conditions and in certain proportions, it contributes to certain specific and general processes essential to the growth or health of single cells and tissues and to the maintenance of life," or "When organisms are thirsty they drink water and make other reactions which indicate enjoyment, satisfaction, and continued approval—even in the light of the most careful scientific inquiry—of effects produced." The statement "Water is good to drink" is also but a short, convenient way of expressing the properties of water as

[7] The term "referent" is used in its common logical sense as "that to which a term or statement refers."

formulated and sustained in relation with an organism or organisms. It conceals or neglects the fact that the "goodness" is synonymous with the existence and continuation of the relationship which makes possible the short statement and its verification. The more factual forms merely make explicit the *existence* of events, including those of the occurrence and satisfaction of an organism's needs, enjoyments, and approvals, events which have or are determinate (yet often changing and creative) properties or efficacies.

The complete mutual translatability of facts and values as statements results from the identity of their referents. Water is what it is and sustains in interaction with organisms (some of whom have built up particular systems of denotation or sign-usage) the relations it does sustain, whether this "isness" or events-in-relation is expressed as "Water is H_2O" or as "For purposes of exact statement of chemical constituency, H_2O is a good formulation of what water is." The effects of water when drunk by organisms under any particular conditions are the same whether expressed as "Water is good to drink" or as "The drinking of water produces events of enjoyment and other critically approved or approvable effects." Facts and values as statements are somewhat different languages or sign-systems. Each system is but a partial expression of a more inclusive set of interdependencies. When transposed, each form of statement expresses or seeks to express the same interdependencies of events as they are or as they are taken to be. Because these interdependencies, as actualities or potentialities are what they are, facts and values as referents are what they are even when unexperienced by a subject or subjects.

The two forms of expression rise and persist, even though mutually and completely transposable, because man is a part, but only a part, of nature or existence. He is a vital organism, self, or "mind" that experiences—not always correctly as he has gradually and painfully yet promisingly learned—events, including himself and his acts, as being what they are *per se* and also as constituting the conditions and effects of the occurrence of events, including the rise and satisfaction of his own needs and interests. In short, every experienced event and relation in the whole gamut of events and relations—however objective, subjective, or interactive—is experienced, consciously or not, both as an *existent* (past, present, or potential) and as an object or ground of *interest*. There is thus in every act of attention a polar interaction of subject and object or objective; there is interest *of* and interest *in*. In some cases—due to need for control or to curiosity, scientific or otherwise—

interest centers predominantly in what the "object" (events in their relations) is "in itself," its actual "existential" nature. In other situations or at other moments, attention centers chiefly upon events and relations as efficacies or efficiencies for other events, including the events of the creation or discovery of purposes and means whose effects are found approvable and/or enjoyable, however critically, carefully, inclusively, and long they are felt out, thought out, and more overtly tried. In the first instance the "natural" or most direct form of expression is—for persons of usual language habits—the more factual one; in the second instance, particularly in matters which involve human needs and interests,[8] the more direct form is the valuative one. But in both instances formulations rise to express what is seen, when stated more explicitly or viewed more widely, to be an inclusive interaction and interdependence of subject and object which can be expressed either in more factual or more valuative terms with complete translatability in both directions.

It will be seen that values are not thus *reduced* or reducible to facts nor facts to values. Both facts and values as referents, or the referents of both as formulation, are actually and potentially the same properties or interdependencies of any and all events. But each is a relatively different mode of experience and expression whose somewhat unique traits and qualities result in part from the predominant direction or character of interest and often in part from the subject's own habits of thought or sign-usage. Nor, even though the referents of both fact and value statements are the actual and potential properties or interdependencies of events, is either fact or value thus reduced to or equated with existence *per se*. In a broad generic sense each is a kind or group of statements having the reactive, neural-muscular, and possibly affective-conscious or near-conscious existence of all meanings and sign phenomena. But in a more distinctive sense they are those statements whose predications are or might be verified or verifiable; or perhaps better, they are, or are the ground of, the status of objectivity which some statements take on or could take on, or are found properly to be predicated as possessing, *in so far as* they are or could be openly and experimentally verified or confirmed.

In view of these considerations it is clear that the argument

[8] As when we say "This ice cream tastes good," "This is a 'cheap' movie," "Crime prevention is better than cure," or "This is the best method yet discovered." Human interests are generally present, directly or indirectly in "value judgments," though possibly not constitutively present when the intent is merely to express a fact, as is the case in some uses of the statements "Vitamins are good for living things" or "Rain is good for grass."

against the translatability of values into facts, on the ground that there is in value statements a more apparent or constitutive reference to organic needs, interests, wishes, or preferences, overlooks the fundamental points (1) that even non-organic and non-personal events are dependent upon other events for their existence, which other events may therefore properly be said to be values for or with respect to these non-organic and non-personal events,[9] but particularly (2) that needs, interests, wishes, and preferences are also events or phases of events conditioned upon and affecting other events, all of which interdependencies may be expressed in factual as well as in valuative forms, though in many situations the valuative is for most persons with usual language habits the easier or more direct and therefore supposedly the natural or sole form. To restrict factual statement to empirical reference, while making the prior assumption that only external non-organic or non-affective events are empirically knowable and statable, and to restrict valuative statement to events-in-relation with the prior assumption that only relations as or with organic needs or interests are properly designated as values is to make a commonly assumed though strictly unjustifiable split among both events and relations which, as will soon be noted further, finally confuses the basic issues of value theory.

When it is recognized that the *whole* gamut of experienced and experienceable events—personal and affective as well as physical and perceptive—is or can be so experienced as to make both factual and valuative forms of expression possible and economical, and that every statement in either form is translatable into the other and yet requires careful inquiry and testing before its facthood or valuehood is established or experienced in the most distinctive sense, a number of closely related consequences are seen to follow. Five may be noted briefly.

The first concerns the relation of knowing and valuation. If knowing is conceived as inquiry and testing regarding the nature of any and all events and relations, including those of purpose, wish, interest, appraisal, and other subject-object interactions, and if valuation is taken to mean inquiry and testing of the efficacy of events for producing and sustaining events, including but not re-

[9] Cf. footnote 8. This wider usage of "values" has the advantage of helping to gain and maintain recognition of the continuities between inorganic, organic, and psychological-logical events. But a restriction of "values" to events and relations involving sentient experience or judgment will not, it should be noted, reduce the force of the second point which immediately follows in the text.

stricted to the creation or discovery of genuinely approvable ends and means, then knowing and valuation are not only, as Dewey has said,[10] precisely *similar* processes; they are one and the *same* process. To know that "Water is H_2O" is to perform operations with water which give rise to and sustain this statement as critically approvable in relation to meanings built up through other interactions and usages. To "evaluate" this statement either in its more factual or more valuative forms, say "For exact statement of the chemical constituency of water by means of this given system of denotation, H_2O is a good formulation," is to perform precisely the same operations of interaction and appraisal, including in each case conceptual-affective approval or disapproval. For the same reason the inquiry and testing of *any* given statement is the same whether expressed in its more factual or more valuative forms. Conceived as total movements "from the unsettled to the settled" or as total adjustment courses, knowing is valuation, valuation is knowing.

Or in a fundamentally different usage it may be said that fact-finding or knowing is those *phases* of interaction of subject and object or objective in which there is or may be predominant interest in the nature of events as such, and valuation those *phases* in which interest centers or may center in efficacies for or as interests, purposes, means, and approvability. But in this usage it will be clear that knowing and valuation are present, consciously or not, in every act of problem-solving and that there are strictly no processes of inquiry and testing which are solely "knowing" or solely "valuation," that both are essential to and may be made equally explicit and prominent for each and every such process.

In the second place, it will be recognized that so-called "more factual" inquiries and judgments *appear* to be, in the main, more perceptive, quantitative, descriptive, reproductive, and objective whereas "more valuative" inquiries and judgments *seem* to be more affective, qualitative, normative, creative, and subjective, only because in comparisons commonly made there is an unfair selection of cases and a resulting unjustifiable conventionality in the use of such terms as "fact-finding" (or "knowing") and "valuation," "descriptive judgment" and "normative judgment," "factual judgment" and "valuative judgment." There is a certain mental economy in identifying fact-finding and factual or descriptive judgment with those inquiries and acts of inquiry in which perceptual,

[10] John Dewey, *Essays in Experimental Logic*, 1916, p. 353, speaks of evaluation as a critical process, "a process of inquiry for the determination of a good precisely similar to that which is undertaken in science in the determination of the nature of an event."

quantitative, and the other mentioned elements of reaction or experience are most conspicuous and in contrasting these inquiries and acts with those in which affective, qualitative, creative, normative, and subjective elements of experience are most evident, calling the latter inquiries and judgments "valuative," "normative," "subjective," and the like. The extreme instances of difference for *attention* are thus abstracted out and erected into differences in the total interactive processes and interdependencies involved. There is neglect of the fact that when viewed in its larger context every so-called factual inquiry or judgment is equally valuative, consisting of operations and formulations which can be stated in valuative terms, and that likewise even the most conspicuously valuative inquiry or judgment is in its larger context equally factual, composed of operations and formulations which can be stated in factual terms.

A third consequence similar to the first two is that the verification of a fact is the verification of a value and vice versa. The processes of verification are in each case precisely the same. In either form a statement is verified only by inquiry and testing which involve an intellectualization and a critical examination of possibilities openly and fairly in the light of funded experience and of the effects produced in further thought and more overt action. When and in so far as a statement is verified in one form of expression, it is *ipso facto* verified in the other as well. The common tendency to attribute to facts and values peculiar properties of meaning and a resulting difference in mode of verification are seen to result, again, from an improper selection and partial treatment of instances for comparison.

In the fourth place, it is evident that as mutually and completely translatable modes of statement, all facts and values are, when each is considered *en masse,* equally verifiable or unverifiable. Due to wide variation in the simplicity, accessibility, quantifiability, separability, and controllability of events and their component elements, including the events of perception, conception, purpose, enjoyment, and critical appraisal as well as more external events and interactions, there is a corresponding variation in verifiability all the way from the rather definitely verifiable to the probably unverifiable. And since the verifiability in any particular case, whether statement is in the more factual or the more valuative form, will be affected by precisely the same factors of simplicity-complexity and other traits of the events involved—the events constituting subjects, objects, and their interactions,—it follows that all possible facts and values are, each form *en masse,* not only verifiable in *much* the same manner and degree, which may be

maintained even on other grounds,[11] but that they are *equally* verifiable-unverifiable.[12]

A final consequence is that facts and values have each *en masse* the same status and characters as, and in relation to, existence or reality. They are each and equally as constant and changing and as determinate and creative as are the whole gamut of events whose existences and other interrelations, actual and potential, constitute them as referents or are their referents as statements. The creative course and multiple interactions of time's march make for change, as the "isness" of the characters of past and present events and relations makes for, or is the recognition of, constancy, continuity, and uniformity. With events—whether physical, biological, psychological, social, or semiotic—both facts and values vary from the extremely fixed and constant to the extremely unstable and variable, from the singly simple to the multifariously complex, from the past and retrospective to the prospective and future, and, in the positive sense, from prized and proven actualities to attainable and approvable possibilities. Present processes and relations are means by which some events operate to produce further events, whether the more immediately causative events are moisture in soil and sun in sky or the creative cerebrations and total interactions commonly called observation, imagination, planning, and trying suggestions in action. Every new experienceable event or relation, however produced, constitutes the basis for further factual and valuative statements, and every formulation in so far as generated and sustained in critical and open interaction is or expresses a new fact and value in the distinctive sense.

As will be noted from its consequences, the general import of transposability is, negatively, that problems of the relations of facts and values are largely pseudo-problems, problems generated by partial perception of, and by resulting abstractions from, total adjustment courses and the interdependencies thereof. But more positively it points, as the present discussion has also sought

[11] For a more empirical or less linguistic support of this conclusion, see the writer's article "The Verifiability of Facts and Values," *Phil. of Science*, Vol. V (1938), pp. 310–321.

[12] It is therefore true that each kind of value is as verifiable as the same kind of fact. Scientific values are as verifiable as their corresponding scientific facts, esthetic values as verifiable as esthetic facts, moral values as verifiable as moral facts, and so on. But it does not follow from the equal verifiability of facts and values *en masse* or within each separate kind that the different kinds are equally verifiable. The relative verifiability of different kinds of facts and values is an important problem not essential to the present discussion.

briefly to suggest, to an actual and potential simplification, extension, and unification of general scientific or value theory.

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BOOK REVIEWS

Reality. PAUL WEISS. Princeton: Princeton University Press. London: Humphrey Milford, Oxford University Press. 1938. 314 pp. $3.50.

It is difficult to give in brief compass an adequate notion of the ambitious scope and sweeping conclusions of this volume. "Reality" is approached by Professor Weiss first through an inquiry into the nature of knowledge, then through an examination of Being itself. Though the results of the two investigations are essentially interdependent it will simplify matters somewhat to consider them separately.

Under "Knowledge and Ignorance" the author includes a preliminary discussion of philosophic method, an analysis of perceptual knowledge, a survey of the "basic rational disciplines"—the natural sciences, mathematics, esthetics, and logic—and a culminating chapter "Towards Ontology" in which the ultimate category which is to serve as "a universal and inescapable conceptualization of every possible object of knowledge" (p. 144) is finally disclosed. In this section of his book Professor Weiss has several acute discussions of particular issues; his development and clarification of Peirce's theory of perceptual indication seemed to me especially useful. The main course of the discussion, however, is determined throughout by the assumption that "all inquiries are modes of answering the single question: 'What is the nature of the real?' " (p. 141) so that, e.g., "The perceived is a partial answer to a question regarding the nature of the whole of reality," etc. (*ibid*). It is inevitable that when ordinary perceptual or scientific inquiries are viewed in this light, the specific canons of relevance and tests of validity which give them a reliable meaning in use are ignored, and we pass from the specific to the oracular and from the oracular to the "ultimate category." Thus Professor Weiss observes: "The philosopher must rob empirical facts of their specificity to make them universal, must dislocate accepted truths from their settings in limited domains so as to understand the universe in its eternal characters" (pp. 6–7). His discussion of the ultimate category provides, I think, an enlightening example of what the result of such a "dislocation" must be.

What is wanted is a truth that will reveal "the meaning of the real in the shape of a ubiquitous and inescapable principle," a principle which "provides the ground for every logical or necessary, and every contingent situation as well" and "at the same time reveals that there is a world to which it applies and which specifies it" (p. 140). This principle turns out to be "the law of contradiction, as a synthetic, discursive structure, so general that anything whatever can be an illustration of it, and so related to the real, about which it asks, as to enable it to be exemplified in everything" (pp. 144–145). The "articulate structure" of this law is "*X* is-not non-*X*," and by appropriate specification of its several elements we get, for example, "red coexists with triangularity" and "cats eat mice" (p. 146). This basic categorical form is the essence of each one of us, and of everything, and as such it provides (though only in schematic form) the answer to the question which all inquiry asks: what is the real? "The answer to the ultimate question is that it is a category; i.e., that it has multiple concrete guises. Since these are specific questions regarding the nature of the real, the answer to the last and most basic question that we can ask is that every abstract and concrete answer is a mode of questioning" (p. 155). The answer seems to me to be altogether appropriate to the question asked. But since it is still, in epistemology, only schematic and formal, we must turn to ontology to discover the beings from which its content is derived.

The second part of the book I found much heavier going. The basic categories are developed in a series of demonstrations in which necessary synthetic propositions, whose necessity for the most part eluded me, have a primary rôle. This may be due to an inability on my part to enter deeply enough into the speculative inwardness of the system. It may, however, be due to the fact that the concepts used borrow their significance from their application in contexts to which, as Professor Weiss employs them, they are specifically inappropriate. When, for instance, the reader is asked to consider the "problem" of the kind of causation ("mellontological") required to enable an actuality to "move into the future, leaving the present moment behind" (p. 210) the "problem" seems so largely to depend on using "move into the future" in a sense which is specifically inappropriate to temporal change as to generate the suspicion that both problem and solution are the result of terminological confusion rather than ontological profundity. The substantiation of this charge would, however, require a much more extended and minute internal criticism of Professor Weiss's ontology than is appropriate either to the limits of this review or the philosophical interests of the reviewer. I shall simply summarize

the author's conclusions with respect to one primary notion: "the individual." The reader will then be able, I hope, to decide for himself whether a further exploration of the subject would, for him, be a profitable undertaking.

Individuals are the ultimate realities. Each is altogether other than the rest. Each is both public and private in its nature. "As public, an individual is the term of a relation; as private, it is a substantial entity on which those public terms depend, in part, for their being" (p. 172). This private nature is "lived through, enjoyed from within" (p. 179), it is the inwardness in which any character, as inward and absolute, is "identical with the absolute being of every other character of the individual and with the individual itself. The inwardness of any feature is the inwardness of any other discernible within it, and the absolute being of any one is identical with the absolute being of the rest and with the meaning of the private individual as the indivisible source of those characters as they occur in public settings" (p. 181). This inwardness, though only "darkly" discerned in perception, is not, it seems, the night in which all cows are black. It is a basic fact not only for ontology but also for art, which has for its impetus "a drive to know the whole reality as substantial and inward" (p. 116).

A further and to me less attractive feature of the individual is that it "endeavors to absorb all other realities in the effort to attain a state of absolute completeness" (p. 212). This is unavoidable since "it is of the very essence of a being to endeavor to attain the state where it is complete and self-sufficient, actually embodying in itself the whole of reality" (p. 214). This effort is in principle doomed to failure, but the manner in which it is carried on is the clue to the nature of causation, of space and time, and of much else besides. Since the entities which an individual strives to include in its being are "abstractly future" to it, and since it is its behavior with respect to them which enables it to survive the perishing of the present moment, causation is fundamentally mellontological—the operation of the abstract future upon the present—and efficient causation is but a special illustration of this. "All beings are part of the abstract futures of one another, each engaged in a persistent but inevitably unsuccessful attempt to become absolutely self-complete" (p. 245). It is the fact that this striving can never be fully satisfied which "necessitates that there be time without end" (p. 232).

In speculative knowledge the aim at absolute completeness achieves a sort of vicarious satisfaction, but one which remains abstract until, in morality, the individual becomes transformed

into "a being who is substantially what he cognitively knows" (pp. 285–286). Since what was to be known, to satisfy even vicariously the striving of the individual for self-completeness, was reality as a whole, it seems clear that this statement is not to be taken in the sense one would at first be inclined to give it. But Professor Weiss's statements about the speculative basis of morality are too brief to make it clear what precisely is meant.

It remains to be said that the author writes vividly and with speculative enthusiasm and has manipulated his ontological categories with a skill that is frequently impressive.

A. E. M.

A Source Book of Gestalt Psychology. WILLIS D. ELLIS. New York: Harcourt, Brace and Co. 1938. xiv + 403 pp. $5.00.

As Professor Ellis says in his preface: "Too often it has been said by English and American authors that the *Gestalttheorie* was all—or nearly all—*Theorie.* It is possible that judgments of this sort were not formed on the basis of an extensive reading of the sources." His volume is an attempt to supply these sources in translation. Since coming to America the members of the Gestalt group have published much in English. But nearly all their material between Wertheimer's pioneer paper of 1912 and the English version of Köhler's *Gestalt Psychology* in 1929 appeared in German periodicals and difficult of access to most students. Since this work was done in the formative period of the school when it was threshing out its terms and ideas under pressure of research, its neglect leaves an important hiatus. In bridging this gap Professor Ellis has performed a needed service.

Obviously it was impossible to include all the German material, or even to print in full enough of it to give an adequate picture of what was going on. By condensing, abstracting, and paraphrasing as well as translating, the editor has managed to compress within a reasonable number of pages of readable print some "thirty-four articles and one book published in Germany between 1915 and 1929 by the leading exponents of Gestalt psychology and their students." How much distortion this expedient may have occasioned is hard to judge accurately. We have Professor Koffka's word for it, in a special introduction, that the book is faithful and is the best that can be done. The fact that most of the material is experimental, only some ninety odd pages out of four hundred being devoted to general theory and polemic, is another index of its reliability. Despite frequent gaps (all carefully indicated in most cases with the content suggested) the argument and train of thought are fairly easy to follow.

The result, though, may seem to many, especially those who pride themselves on being factual, to give an unexpected twist to Professor Ellis's preface. Instead of being all theory, Gestalt is not theory at all—or nearly not at all. Except for two articles by Lewin and Zeigarnik on "Will and Needs" and "Finished and Unfinished Tasks" the experiments are a monotonous series of works on perception. The Gestaltists are certainly painstaking enough and examine every alternative in detail but it is all traditional method: the much-heralded, presumably revolutionary, typically Gestalt methods are not in evidence at all. The conclusions are all the same: the various forms of the atomic and associationist hypotheses in a particular perceptual problem (vision for the most part, though the headings range from organization to pathology) are tested and found wanting, while the Gestalt hypothesis is found to hold. That is, in some sense or other, what is seen is found to depend on the total field situation and not on the character of the parts taken separately or additively. There the investigations stop. Except for one article by Wertheimer in which he reaches results similar to the old laws of association, no attempt is made to find the laws of the field, to ascertain more accurately the characteristics of fields, or to distinguish between different types of field situation. Even Köhler's *Physischen Gestalten,* the longest single selection, which does deal exclusively with the characteristics of fields, is of no real help, for it presents only analogies and resemblances. We may very well grant to the Gestaltists that it is the total field structure which is important. But that is a vague statement and by no means constitutes a system of psychology.

Professor Ellis's presentation of the basic experimental material, by laying the old ghosts that Gestaltists use neither statistics nor analysis, clears the ground for recognition that from the beginning to the present, with the possible exception of Kurt Lewin's work, Gestalt psychology has been only a point of view. It has done yeoman service in showing that the subject-matter of psychology and the other social sciences must be approached with the realization that the relationships of its elements are not simple. In the strict sense there may be no elements, no entities with a character which remains the same in no matter what situation those entities may be. But so far there is no theory, no system of terms and sentences from which what happens and has happened can be deduced, no set of functional equations from which what may or will happen can be predicted. Until there is, it is absurd to argue whether *Gestalttheorie* is true or not. A reading of the *Source Book* should do much to point out these limitations, and to establish the real question as one rather of relative adequacy and inadequacy.

The job is not to debate truth but to go on towards more precise formulation and clarification of the inadequacies and towards the subsequent experimentation and theoretical work necessary to eliminate them.

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NEW YORK CITY.

Le Temps. Étude philosophique physiologique et psychologique. JOSEPH SIVADJIAN. (Actualités Scientifiques et Industrielles, Nos. 615, 616, 617, 618, 619, 620.) I. Le problème métaphysique. Les Atomistes, les Pythagoriciens, les Platoniciens. II. Le problème métaphysique. Le Néoplatonisme chrétien et les Scolastiques. III. Le problème psychologique. IV. Le problème physique. V. Le problème physiologique. VI. Le problème du subconscient. Paris: Hermann & Cie. 1938. 425 pp. 12, 18, 20, 15, 10, 10 fr.

This work is an expanded version of an essay submitted for the Rignano Prize, offered by *Scientia* in 1931 for a book on the evolution and nature of time, which won for the author honorable mention. Considerably more than half of it consists of a survey of theories of time ranging from the views of the Greek atomists to those of Bergson and modern relativity physics, which are arranged chronologically under the following heads: *A*. Theories which regard time as a substance. *B*. Theories which regard time as a property or relation, possessed either by (1) a substance or (2) a mind.

M. Sivadjian's own theory is that space and time are both derivative from the following fundamental properties of matter: (1) Two material particles can not occupy the same position simultaneously, so that they must be separated by an interval which is space. (2) One material particle can not occupy two positions simultaneously, so that in occupying two positions they must be separated by an interval which is time. Accordingly, time and space are phases of an entity called "interval," the source of their reality is the discontinuous structure of matter, and there is complete symmetry between them as to the properties which characterize each—e.g., it is simply an error to suppose that space is reversible while time is not. The author also criticizes those who think time has either a path or a velocity, and maintains that it is an extension which is inversely proportional to the velocity of material objects. His general conclusion is that time is not an *a priori* condition for experience, but that its nature is determined by the character of matter as empirically found; and he supports his contentions by far-ranging physical, physiological, and psychological evidence.

E. N.

The Scientist in Action. A Scientific Study of His Methods. WILLIAM H. GEORGE. New York: Emerson Books, Inc. 1938. 354 pp. $3.00.

The aim of this book is to exhibit science as a type of human action, and its main stress is placed upon the view of science as a "description or patterning" in contrast with what the author calls the "absolute or inner reality theory of science." The products of scientific research are taken to be facts or judgments of coincidences on the one hand, and the patterning of facts into laws, theories, and classificatory systems on the other. Universal agreements are obtainable about coincidences, so that according to Dr. George it is they rather than measurements which constitute the bedrock of science; theories are conceived as conceptual frameworks into which facts are to be fitted, and are said to formulate policies of action rather than intellectual creeds to be believed. Most of the inspiration of the book comes from the writings of Mach, Pearson, and Hobson, and like them Dr. George has many apt and good things to say about the dangers of reifying abstractions as well as about the follies frequently committed when the "reality" of scientific objects is discussed.

The book does not quite live up to its title and explicit intent, and the "scientific study of the scientist's methods" is largely an elementary study of the psychology of perception. Dr. George is somewhat unguarded in his choice of language, and he does not, moreover, always avoid the weaknesses of traditional empiricism—e.g., his account of the facts of science as sense-data or of mathematical terms as mental concepts, and his general "mentalistic" version of thinking. His discussion of the "absolute theory of science" is strongly flavored by caricature; and perhaps because he is so eager to stress science as a mode of human action, he does not always clearly distinguish between the theoretical *content* of scientific propositions and the rôle of the scientist in framing and testing such propositions.

E. N.

Metaphysik der Biologie von Heute. Die Fragen des Lebensprinzips und der Lebensentwicklung und der neure Forschung. ALOYS WENZL. (Wissenschaft und Zeitgeist, 9.) Leipzig: Felix Meiner. 1938. 57 pp. 1.50 M.

A brief survey of current biophilosophical thought, this booklet offers a worthwhile introduction to the most modern problems of biology. Mostly concerned with the theoretical framework of biological experiments, in an easily readable manner it presents the

troubles and difficulties which a scientist faces today in a world of advanced scientific criticism and insecurity concerning the principles of his knowledge. Naturally, he is under the obligation to trace the metaphysical background of the various approaches back to what he might call his experience. Telling a short story of mechanism and vitalism (less abstract than Hans Driesch's) Wenzl is generally concerned with German solutions of this methodological conflict in biology. It is interesting to note that the boldest solution, the view of Adolf Meyer that the mechanistic, physico-scientific approach is derived merely from the insights of organicistic-vitalistic concepts, is influenced by the great English biologist, Haldane.

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Rationale Biologie und ihre Kritik. (Eine Auseinandersetzung mit dem Vitalismus H. Driesch's.) EUGEN HEUSS. (Studien und Bibliographien zur Gegenwartsphilosophie, Heft 24.) Leipzig: S. Hirzel. 1938. 192 pp. 6 M.

Heuss presents in this study a valuable analysis of historical and current logical problems and principles of theoretical biology. Being interested chiefly in the conflict of vitalism and mechanism as approaches to a scientific understanding of the nature of organism he deals particularly with the vitalism of H. Driesch who proved by experiments the necessity of regarding organisms as wholes and who fought for the theoretical recognition of a *ganzmachenden Faktor* separating the world of mechanics from the life of organic beings. In discussing the arguments of a mechanistic biology which deals only with implications of physical principles the study offers various attempts to explain biological facts without the conception of a special teleological factor. These approaches, however, prove unsatisfactory, since many biological data can not be covered and interpreted in the mechanistic way. Can a machine, if we take an organism as a machine, build up itself? Heuss offers some material concerning the biological processes of the cells and their ability to adapt themselves if the situation of the organism changes. Considered from the point of view of the practical implications of theoretical biology, the value of Heuss's study is rather limited. His views concerning the metaphysical concepts of nature, which might comprehend the mechanical as well as the organic data (with particular reference to Kant), are noteworthy though not sufficiently fruitful for a logic of biology. The discrimination of species and the differentiation of development are quite unsolved questions and the experiments have merely pro-

vided material for the construction of biological theory. As a matter of fact, due to the limit of this study—its title demonstrates conspicuously that it refers to the rationalism of Driesch—it is restricted in its beginning and in its outlook. A less restricted biological theory would discuss also the social background. In a period of technique and rationalization Driesch's theory reflects its rationalism but also its attempt at a reinterpretation of life.

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NEW YORK CITY.

Charakter und Schicksal. Eine pädagogische Menschenkunde. HERMAN NOHL. Frankfurt A. M.: Gerhard Schulte-Bulmke. 1938. 193 pp. 7.50 M.

The orientation of this work is toward "interpretation"; it is neither scientific in any reasonably broad sense of the word, nor is it primarily hortatory in character. It shows some of the strength and much of the weakness of all attempts to base a philosophy of education upon the theory and the tradition of the *Geisteswissenschaften.* It is wide in scope and broad in sympathy, and it brings real human understanding to bear upon its problems. Yet because of its unwillingness to make full and careful use of the results of scientific psychology, biology, and anthropology, its conclusions with regard to the structure and matrices of personality bear a most unsatisfactory aspect. To deal not only with the foundations of a pedagogical interpretation of human nature, but also with problems such as the nature of temperamental differences, of differences between the sexes, and of differences between "races" and between nations in so brief a compass is clearly impossible. Yet for those who are interested in either attacking or defending the idea of a philosophy of education which functions more or less independently of the results of the sciences the book is not without value. It should also be added that it is a veritable mine of interesting and apt quotations from the humanistic tradition.

M. M.

OTHER NEW BOOKS AND JOURNALS

Macintosh, Douglas C.: Social Religion. (Religion Today and Tomorrow.) New York and London: Charles Scribner's Sons. 1939. xv + 336 pp. $3.00.

Herlitz, Nils: Sweden: A Modern Democracy on Ancient Foundations. Minneapolis: University of Minnesota Press. 1939. xiii + 127 pp. $2.00.

Muzumda, Haridas T.: Gandhi Triumphant. The Inside Story of the Historic Fast. New York: Universal Publishing Co. 1939. 104 pp. $1.00.

Augier, E.: La mémoire et la vie. Essai de défense du mécanisme psychologique. Paris: Félix Alcan. 1939. 251 pp.

RIVISTA DI FILOSOFIA. Anno XXX, No. 2. La fondazione empiristica della conoscenza: *L. Geymonat.* I miti platonici sull'anima e sui suoi destini: *Ad. L.* Amore e morte (Dialogo tra un psicologo e un metafisico): *G. Capone Braga.* Platone sul palcoscenico: *A. L.*

REVUE DE PHILOSOPHIE. 39e Année, No. 2. Aux origines du droit international moderne: *Y. de la Brière.* Sur la composition d'acte et de puissance dans les créatures d'après saint Thomas: *V. A. Berto.* Introduction au problème de l'hallucination: *J. Paulus.*

BULLETIN DE LA SOCIÉTÉ FRANÇAISE DE PHILOSOPHIE. 38e Année, No. 3. Malebranche. Commémoration du troisième centenaire de sa naissance. *Léon Brunschvicg, André Chaumeix, Émile Picard, Édouard Le Roy, Désiré Roustan, Henri Gouhier, Paul Schrecker.*

THEORIA. Volume V, Part I. Correspondence and Coherence: *Sven E. Rodhe.* L'apriorisme dans l'histoire de la philosophie: *H. J. De Vleeschauwer.* De la morale comme phénomène social objectif: *Olof Kinberg.*

NOTES AND NEWS

The newly-elected officers of the Western Division of the American Philosophical Association are as follows: President, Glenn R. Morrow; Vice-President, R. A. Tsanoff; Secretary-Treasurer, Charner Perry; New Members of the Executive Committee, F. W. Dickinson and W. S. Gamertsfelder.

The Fifth International Congress for the Unity of Science will be held at Harvard University, September 3–9, 1939. Arrangements for rooms can be made through Dr. W. V. Quine, Harvard University, Cambridge, Mass. Contributions to the Congress are as follows: Donors, $25.00 upwards; active members, $5.00; students and relatives of members, $1.50. Donors and active members receive a copy of the proceedings. American participants may make their contributions payable to the order of the Fifth International Congress for the Unity of Science, University State Bank, 1354 East 55th Street, Chicago, Illinois. Others who would like later notices of the Congress should send their names to Professor Charles W. Morris, University of Chicago, Chicago, Illinois.